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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,053	08/09/2001	Haruhiko Ikeda	P/1071-1453	4134

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New York, NY 10036-2714

EXAMINER
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HARAN, JOHN T

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

**Office Action Summary****Application No.**

09/927,053

**Applicant(s)**

IKEDA, HARUHIKO

**Examiner**

John T. Haran

**Art Unit**

1733

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 28-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/19/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This action is in response to the amendment and arguments filed on 2/19/04. All previous rejections are withdrawn in light of the arguments. The indicated allowability of claims 30, 31, and 34 is withdrawn in view of the newly discovered reference(s) to Okano et al (U.S. Patent 5,679,928). Rejections based on the newly cited reference(s) follow.

#### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 2/19/04 was filed after the mailing date of the final office action on 12/16/03. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 28, 29, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Okano et al (U.S. Patent 5,679,928).

Okano et al discloses a bonded structure comprising an IC chip (70) with bump electrodes (71) that are coated with an electrically conducting film (72) or solder or tin (low melting point material) which is electrically connected to substrate (32) with ITO

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film (electrode) (33) that is coated with an electrically conducting film (34) of solder or tin (low melting point material) through an electrically conducting adhesive (organic binder) (20) that contains electrically conductive particles (21) (Column 9, lines 1-18). The electrically conductive particles are present within the electrically conducting films (72 and 34) (See Figure 6, Column 9, lines 31-39). The electrically conductive particles are either solder beads or plastic resin beads with a conductive metal coating (Column 9, lines 39-45 and Column 50-52). Solder and tin are cited as examples of low melting point materials in the specification (See tables). Okano et al anticipates claim 28, 29, and 34.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuna et al (U.S. Patent 5,679,928), as applied to claims 28 and 29 above, in view of Ishio et al (U.S. Paten 6,448,624).

Okuna et al is relied upon for the teachings noted above. Okuna teaches the electrically conductive particles (21) can be plastic resin beads coated with a conductive metal coating, but is silent towards the coating being silver. It is well known and

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conventional in the bonding art to have electrically conductive adhesive that comprises electrically conductive particles that are plastic resin beads coated in an electrically conductive metal coating such as silver (Ag), as shown for example in Ishio et al (Column 28, lines 37-41). One skilled in the art would have readily appreciated using a conventional electrically conductive metal coating such as silver for the plastic resin balls in the product of Okuna et al. It would have been obvious to one of ordinary skill in the art at the time the invention was made use silver as the electrically conductive coating for the plastic resin beads in the product of Okuna et al, as is well known and conventional as shown for example in Ishio et al.

7. Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuna et al (U.S. Patent 5,679,928).

Okano et al discloses a bonded structure comprising an IC chip (70) with bump electrodes (71) that are coated with an electrically conducting film (72) or solder or tin (low melting point material) which is electrically connected to substrate (32) with ITO film (electrode) (33) that is coated with an electrically conducting film (34) of solder or tin (low melting point material) through an electrically conducting adhesive (organic binder) (20) that contains electrically conductive particles (21) (Column 9, lines 1-18). The electrically conductive particles are present within the electrically conducting films (72 and 34) (See Figure 6, Column 9, lines 31-39). The electrically conductive particles are either solder beads or plastic resin beads with a conductive metal coating (Column 9,

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lines 39-45 and Column 50-52). Solder and tin are cited as examples of low melting point materials in the specification (See tables).

Okuna et al is silent towards the electrically conductive films (low melting point material) being solder in the form of a tin-lead alloy (Sn-Pb), however it is notoriously well known and conventional that tin-lead alloy is not only a type of solder but also the predominant form of solder. One skilled in the art would have readily appreciated using a notoriously well known and conventional type of solder, such as a tin-lead solder in the product of Okuna et al. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a tin-lead solder as the solder in the product of Okuna et al, as tin-lead solder is a notoriously well known and conventional solder.

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 28-34 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

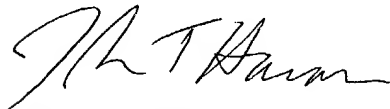
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John T. Haran** whose telephone number is **(571) 272-1217**. The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone

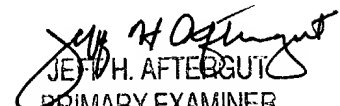
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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John T. Haran



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